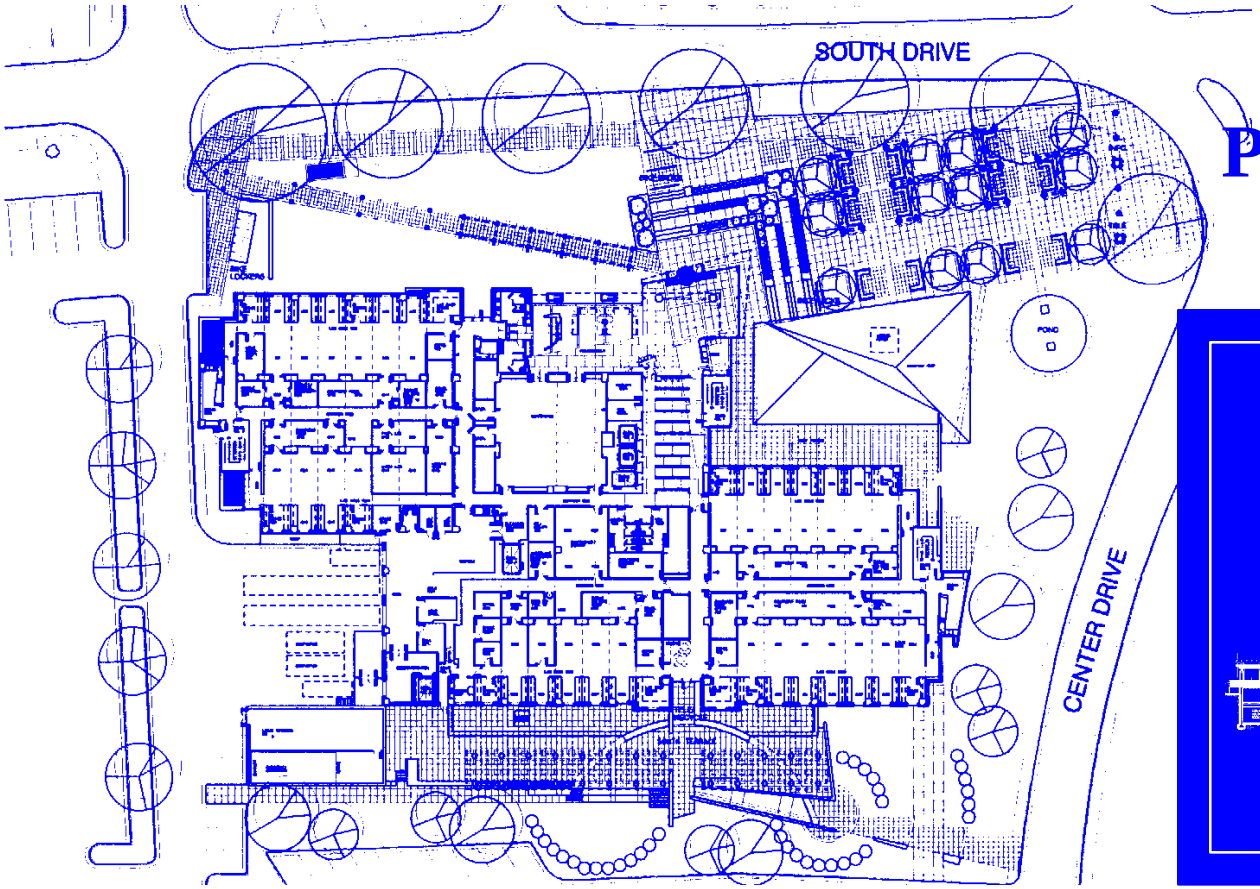
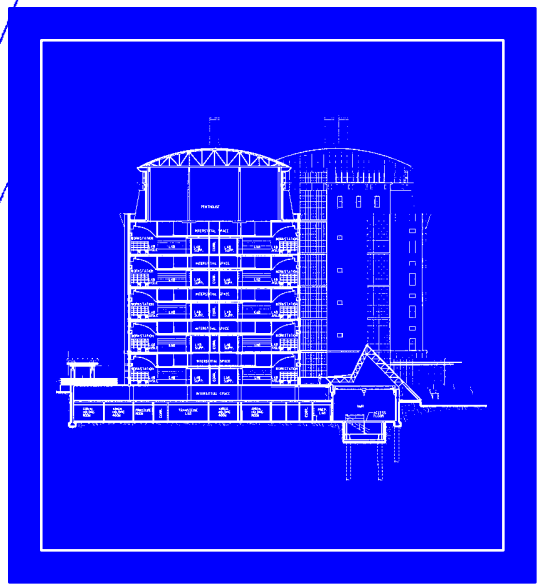
National Institutes of Health

Office of Research Services

Division of Engineering Services



Planning & Programmatic Guidelines



Facilities Planning & Programming Branch *12/93 Revised 10/96*

INTRODUCTION

Programming is defined by William Peña in his book *Problem Seeking* as a five-step process: establishing the goals; collecting and analyzing the facts, testing the concepts, determining the needs, and stating the problem**.** It involves four considerations: function, form, economy, time. Function concerns the activities, relationship of spaces and people, their number and characteristics. Form is associated with the site, the physical and psychological environment and the quality of space and construction. Economy concerns the initial budget, operating cost and life cycle cost. Time relates to the past, present and future that deals with the influences of history, the changes from the present and projections into the future. Programming is the process leading to a statement of an architectural problem and the requirements to be met in offering a solution. Programming is problem seeking (analysis) and design is problem solving (synthesis).

The *Planning and Programmatic Guidelines* represents a large body of knowledge gathered from many sources within the Division of Engineering Services / Office of Research Services (DES/ORS), The National Institutes of Health (NIH), other Federal agencies and the private sector. The purpose of this document is to provide guidance to the Architectural Programmer and DES/ORS staff in the preparation of NIH Programs of Requirements (PORs). It is a companion document to the *NIH Design Policies and Guidelines*. The *Planning and Programmatic Guidelines* apply to all NIH facilities nationwide and they apply both to new construction and major renovations.

The guidelines are intended to promote excellence in the process of planning, programming, design and construction of new and rehabilitated NIH facilities by adopting the following principles of programming from *Problem Seeking*.

General Principles of Programming

A. The Principle of Customer Involvement: Programming is a cooperative process emphasizing customer (Institute, Center, Division or Agency) decision making. The customer is a participating member of the project team. Programming provides an opportunity to raise the customer's appreciation and aspiration for better buildings and inform the DES architects and engineers of program needs.

B. The Principle of Effective Communications: Programming is a process requiring a high degree of communication. It is very important to communicate effectively with customers and designers.

C. The Principle of Comprehensive Analysis: Programming is finding out what the whole problem is and becomes the basis for a more comprehensive solution. The whole problem covers a wide range of factors that influence design.

D. Principle of Bare Essentials: Programming requires only the major aspects of information, i.e. "getting to the essence". It establishes the limits and the scope of possibilities and is a process of distinguishing between wants and needs. Programming is the means of processing raw data into useful and essential information.

E. The Principle of Abstract Thinking: Programming is intended mainly as operational solutions to the customer's performance problems, without regard to the physical design response.

F. The Principle of Efficient Operation: Programming requires good management, clearly defined roles and responsibilities, a common language, and standard procedures.

G. The Principle of Qualitative Information: The requirements of a proposed building include the clients' goals (what is to be achieved) and concepts (how it is to be achieved).

H. The Principle of Quantitative Information: Certain project facts and needs are essentially numerical i.e. numbers of people and things that generate area numbers (for example: square meters and cost numbers).

J. The Principle of Definite Closure: Programming is a process leading to an explicit statement of an architectural problem.

Acknowledgments

Prepared by:

Ricardo C. Herring, AIA, Sr. Architect
Facilities Planning & Programming Branch,
Division of Engineering Services,
Office of Research Services

Special Thanks

Juanita M. Mildenberg, AIA, Acting Deputy Director, DES/ Assistant Director for Facilities Planning & Programming, and her staff for their dedication, support and encouragement for this undertaking.

George B. Williams, P.E., Acting Assistant Director for Design, Construction and Alterations, and his staff for their cooperation in the preparation of this document.

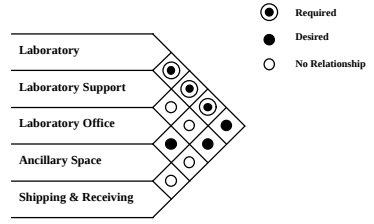
Stuart L. Knoop, AIA, President, Oudens & Knoop Architects PC for editorial and peer review.

Graphics

Kelley Ali, Howard University, Architectural Student
Lavell Flamon, Howard University, B.Arch. 1996
Dorian Stith, Howard University, B.Arch. 1993
Ricardo C. Herring, AIA, Sr. Architect, FPPB, DES, ORS
J. P. (Fred) Khosbin, R.A., Architect, DCAB, DES, ORS

TABLE OF CONTENTS

Section 1 Laboratories



Functional Relationship Matrix

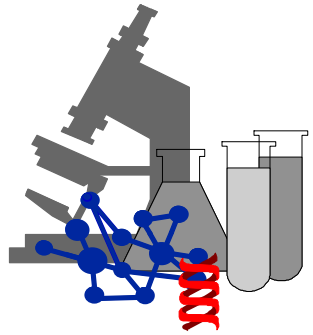
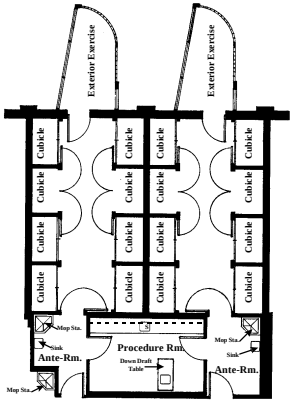


TABLE OF CONTENTS

Section 2 Vivariums



LARGE ANIMAL HOUSING W/CUBICLES & PROCEDURE ROOM